

WHAT IS CLAIMED IS:

- 1                   1.       A lipid formulation, said lipid formulation comprising:  
2                   a lipid phase, said lipid phase comprising a neutral lipid and a member  
3                   selected from the group consisting of cationic lipids and mucoadhesive compounds;  
4                   an aqueous phase; and  
5                   a therapeutic agent.
- 1                   2.       A lipid formulation in accordance with claim 1, wherein said neutral  
2                   lipid is a phospholipid.
- 1                   3.       A lipid formulation in accordance with claim 2, wherein said  
2                   phospholipid is a soybean oil-based phospholipid.
- 1                   4.       A lipid formulation in accordance with claim 2, wherein said  
2                   phospholipid is a member selected from the group consisting of phosphatidylglycerols (PG),  
3                   phosphatidylethanolamines (PE), phosphatidylserines (PS) and hydrogenated  
4                   phosphatidylcholines (PC).
- 1                   5.       A lipid formulation in accordance with claim 4, wherein said  
2                   phospholipid is a phosphatidylcholine.
- 1                   6.       A lipid formulation in accordance with claim 5, wherein said  
2                   phosphatidylcholine is a member selected from the group consisting of Phospholipon 90H,  
3                   Phospholipon 80H and mixtures thereof.
- 1                   7.       A lipid formulation in accordance with claim 1, wherein said lipid  
2                   phase comprises a cationic lipid.
- 1                   8.       A lipid formulation in accordance with claim 7, wherein said cationic  
2                   lipid is a member of the group consisting of stearylamine, DC-Cholesterol,  
3                   dimethyldioctadecylammonium bromide, or 3B-[N',N'-dimethylaminoethane)-carbamol.
- 1                   9.       A lipid formulation in accordance with claim 1, wherein said lipid  
2                   phase comprises a mucoadhesive compound.

1                   10.     A lipid formulation in accordance with claim 9, wherein said  
2 mucoadhesive compound is a member of the group consisting of Carbopol 934 P,  
3 polyaxomers, carbomers and plant lectins.

1                   11.     A lipid formulation in accordance with claim 1, wherein said aqueous  
2 phase is a member selected from the group consisting of sterile water, sterile saline and  
3 sterile, isotonic aqueous buffer solutions.

1                   12.     A lipid formulation in accordance with claim 11, wherein said aqueous  
2 phase is a sterile, isotonic aqueous solution buffered with borates, acetates, bicarbonates or  
3 phosphates in the pH range of 7.0 to 7.8.

1                   13.     A lipid formulation in accordance with claim 1, wherein said lipid  
2 formulation comprises about 0.001 to about 10.000 wt % of said lipid phase and about 90.000  
3 wt % to about 99.999 wt % of said aqueous phase.

1                   14.     A lipid formulation in accordance with claim 1, wherein said lipid  
2 formulation comprises about 0.1 wt % of said lipid phase and about 99.0 wt % of said  
3 aqueous phase.

1                   15.     A lipid formulation in accordance with claim 1, wherein said  
2 therapeutic agent is present in said aqueous phase.

1                   16.     A lipid formulation in accordance with claim 1, wherein a  
2 therapeutically effective amount of said therapeutic agent is present in said lipid formulation.

1                   17.     A lipid formulation in accordance with claim 1, wherein said lipid  
2 formulation is a liposome.

1                   18.     A lipid formulation in accordance with claim 1, further comprising a  
2 preservative.

1                   19.     A lipid formulation in accordance with claim 18, wherein said  
2 preservative is an antioxidant.

- 1                   20.     A lipid formulation in accordance with claim 19, wherein said  
2 antioxidant is a member selected from the group consisting of tocopherol, tocopherol  
3 derivatives, butylated hydroxyanisole and butylated hydroxytoluene.
- 1                   21.     A lipid formulation in accordance with claim 18, wherein said  
2 preservative is an anti-microbial agent selected from the group consisting of benzalkonium  
3 chloride, benzethonium chloride, chlorobutanol, phenylethyl alcohol and cetyl pyridinium  
4 chloride.
- 1                   22.     A lipid formulation in accordance with claim 21, wherein said anti-  
2 microbial agent is chlorobutanol.
- 1                   23.     A lipid formulation in accordance with claim 1, further comprising a  
2 modifying agent selected from the group consisting of cholesterol, stearylamine, cholesteryl  
3 hemisuccinate, phosphatidic acids, dicetyl phosphate and fatty acids.
- 1                   24.     A lipid formulation in accordance with claim 1, further comprising a  
2 wetting agent.
- 1                   25.     A lipid formulation in accordance with claim 24, wherein said wetting  
2 agent is a member selected from the group consisting of polyoxyethylene, sorbitan  
3 monolaurate and stearate.
- 1                   26.     A lipid formulation in accordance with claim 1, further comprising a  
2 thickening agent.
- 1                   27.     A lipid formulation in accordance with claim 26, wherein said  
2 thickening agent is a member selected from the group consisting of hydroxyethylcellulose,  
3 hydroxypropylmethylcellulose, methylcellulose, polyvinyl alcohol and polyvinylpyrrolidone.
- 1                   28.     A lipid formulation in accordance with claim 1, wherein said  
2 therapeutic agent is a non-steroidal anti-inflammatory drug (NSAID).
- 1                   29.     A lipid formulation in accordance with claim 30, wherein said NSAID  
2 is a member selected from the group consisting ketoprofen, flurbiprofen, ibuprofen,  
3 diclofenac, ketorolac, nepafenac, amfenac and suprofen.

1                   30.     A lipid formulation in accordance with claim 30, wherein said NSAID  
2 is diclofenac.

1                   31.     A method for treating an ophthalmic disorder in a mammal, said  
2 method comprising administering to the eye of said mammal a lipid formulation in  
3 accordance with claim 1, wherein said therapeutic agent in said lipid formulation is useful for  
4 treating said ophthalmic disorder.

1                   32.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is post-operative pain.

1                   33.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is ocular inflammation.

1                   34.     The method in accordance with claim 33, wherein said ocular  
2 inflammation results from a member selected from the group consisting of iritis,  
3 conjunctivitis, seasonal allergic conjunctivitis, acute and chronic endophthalmitis, anterior  
4 uveitis, uveitis associated with systemic diseases, posterior segment uveitis, chorioretinitis,  
5 pars planitis, masquerade syndromes including ocular lymphoma, pemphigoid, scleritis,  
6 keratitis, severe ocular allergy, corneal abrasion and blood-aqueous barrier disruption.

1                   35.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is post-operative ocular inflammation.

1                   36.     The method in accordance with claim 35, wherein said post-operative  
2 ocular inflammation results from a member selected from the group consisting of  
3 photorefractive keratectomy, cataract removal surgery, intraocular lens implantation and  
4 radial keratotomy.

1                   37.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is a fungal or bacterial infection.

1                   38.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is herpes ophthalmicus.

1                   39.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is endophthalmitis.

1                   40.     The method in accordance with claim 31, wherein said ophthalmic  
2 disorder is intraocular pressure.

1                   41.     The method in accordance with claim 31, wherein said therapeutic  
2 agent is diclofenac.

1                   42.     The method in accordance with claim 41, wherein said diclofenac is  
2 diclofenac sodium.

1                   43.     A method for treating or preventing ocular inflammation, paracentesis-  
2 induced miosis, cystoid macular edema and mydriasis, said method comprising administering  
3 a therapeutically effective amount of one or more non-steroidal anti-inflammatory drugs  
4 encapsulated or contained within a liposome formulation, said liposome formulation  
5 comprising 0.001 to 10.000 wt% lipid phase, and 90.000 to 99.999 wt% aqueous phase.

1                   44.     The method in accordance with claim 43, wherein said liposome  
2 formulation is applied topically, resulting in the transcorneal or transscleral passage or  
3 introduction of one or more non-steroidal anti-inflammatory drugs into the eye.

1                   45.     The method in accordance with claim 43, wherein said lipid phase  
2 comprises 0.0 to 90.0 wt% of one or more active agents, 10.0 to 100.0 wt% phospholipid, 0.0  
3 to 20.0 wt% antioxidant, and 0.0 to 20% modifying agents; and said aqueous phase comprises  
4 0.0 to 10.0 wt% one or more active agents, 0.0 to 5.0 wt% anti-microbial preservative, and  
5 90.0 to 100.0 wt% aqueous solution.

1                   46.     The method in accordance with claim 45, wherein said active agent(s)  
2 are non-steroidal anti-inflammatory drugs.

1                   47.     The method in accordance with claim 46, wherein said non-steroidal  
2 anti-inflammatory drugs are selected from the group consisting of ketoprofen, flurbiprofen,  
3 ibuprofen, diclofenac, ketorolac, nepafenac, amfenac and suprofen.

1                   48.     The method in accordance with claim 47, wherein said non-steroidal  
2 anti-inflammatory drug is diclofenac.

1                   49.     The method in accordance with claim 43, wherein said ocular  
2 inflammation is a symptom of iritis, conjunctivitis, seasonal allergic conjunctivitis, post-

operative inflammation, acute and chronic endophthalmitis, anterior uveitis, uveitis associated with systemic diseases, posterior segment uveitis, chorioretinitis, pars planitis, masquerade syndromes including ocular lymphoma, pemphigoid, scleritis, keratitis, severe ocular allergy, corneal abrasion, blood-aqueous barrier disruption or ocular trauma.

50. The method in accordance with claim 49, wherein said post-operative inflammation is caused by photorefractive keratectomy, cataract removal surgery, intraocular lens implantation or radial keratotomy.

51. A liposome formulation comprising: a therapeutic agent; 0.001 to 10.000 wt% of a lipid phase; and 90.000 to 99.999 wt% of an aqueous phase.

52. The liposome formulation in accordance with claim 51, wherein said lipid phase comprises a phospholipid.